

## Title (en)

Precipitation hardened wear resistant coating

## Title (de)

Ausscheidungsgehärtete Verschleisschutzschicht

## Title (fr)

Revêtement à durcissement par précipitation, résistant à l'usure

## Publication

**EP 1400609 A1 20040324 (EN)**

## Application

**EP 03019946 A 20030902**

## Priority

SE 0202631 A 20020904

## Abstract (en)

The present invention relates to a cutting tool insert comprising a substrate and a coating. The coating is composed of one or more layers of refractory compounds of which at least one layer comprises a so called precipitation hardened  $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$  based layer, where Me is one of the element Zr, Hf, V, Nb, Ta, Cr, Mo, W or Si. This layer is defined by: x is between 0.50 and 0.80, the ratio,  $R=x/(x+y)$ , is between 0.50 and 0.85, the sum of Ti and Al subscript,  $S=x+y$ , is between 0.7 and 1.0 the ratio of the peak width, F10/90, (FW10%M or FW90%M meaning Full Width at 10% and 90% of the maximum peak value reduced with the background) measured using X-ray diffraction with Cu K alpha radiation of the 200 peak at approximately 43 DEG 2 $\theta$  of the  $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$  coating is higher than 7.5, the ratio between the area of the h-AlN (100) peak at approximately 33 DEG 2 $\theta$  ( $=A(\text{h-AlN})_{100}$ ) and the c- $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$  (200) peak at approximately 43 DEG 2 $\theta$  ( $=A(\text{c-}(\text{Ti},\text{Al},\text{Me})\text{N})_{200}$ ) called K, i.e.  $K=A(\text{h-AlN})_{100}/A(\text{c-}(\text{Ti},\text{Al},\text{Me})\text{N})_{200}$ , and K is between 0 and 0.3 and the layer consists of a single  $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$  (200) peak. <IMAGE>

## IPC 1-7

**C23C 16/34**

## IPC 8 full level

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## Citation (search report)

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